White-spotted Pinion *Cosmia diffinis* (L.) (Lep.: Noctuidae) breeding in Essex 2004

At the start of 2004, breeding populations of the White-spotted Pinion *Cosmia diffinis* (L.), a UK Biodiversity Action Plan (BAP) priority species, were only confirmed in Huntingdonshire and Cambridgeshire (Waring *et al.*, 2003. *Field guide to the moths of Great Britain & Ireland*). The adult moth was effectively rediscovered in Essex in 2002, after four years without any sightings (*British Wildlife* **14**: 285-288), but evidence of breeding has been lacking (Goodey, 2004. *The Moths of Essex*). The last Essex record had been of a single individual at Saffron Walden in 1997 (Maitland Emmet). A record from 1995, from the Aubrey Buxton Nature Reserve, Elsenham (Charles Watson), received via Brian Goodey, the County Moth Recorder, and reported in *British Wildlife* **14**: 287, has since been withdrawn. In 2002, the moth was reported from two Essex sites Chalkney Wood near Earls Colne, a single adult at light near some Wych Elm *Ulmus glabra* on 16 August 2002 (Dave Warner, Joe Firmin, Ian Rose) and Langenhoe, one individual where both English Elm *Ulmus procera* and Wych Elm are present, on 19 August (Hugh Owen, Ian Rose, Joe Firmin). These records are given in *Ent. Rec.* **115**: 213-219.

On 22 May 2003, I undertook searches for White-spotted Pinion larvae at both Chalkney Wood and Langenhoe with Joe Firmin and Phil Smith, joined by Hugh Owen at the latter. We all spent thirty minutes searching by eye at each site for signs of feeding and larvae. No larvae were seen at either site, but one empty leaf shelter with all the characteristics associated with the larval workings of this moth was found at Langenhoe. Later, in the summer of 2003, light-trapping by Hugh Owen at the Langenhoe site produced six more adults. The first was on 31 July 2003 (*Ent. Rec.* **116**: 134-137) and this was followed by the others on 2 August (two) and 7 August (three). None was found at Chalkney Wood which was light-trapped by Joe Firmin and others on 30 July and 12 August 2003, but not in 2004.

The Langenhoe site is essentially a field boundary with a small copse in the corner of a grassy field. Both the copse and the field boundary contain elms and other elms are present in the hedges of neighbouring field boundaries. Chalkney Wood is a 80 hectare tract of ancient woodland between Colchester and Halstead with part owned by Essex County Council and the remainder by the Forestry Commission. We found immature Wych Elms growing at the junction of two rides where Joe Firmin had operated the light-trap. Joe informs me that there is rumoured to be an old record of the White-spotted Pinion from the site, but the specific details are not available and may have been lost.

Determined to find larvae at Langenhoe, I visited again on 25 May 2004, accompanied by Joe Firmin, Hugh Owen, Ian Rose and Phil Smith. This time we were successful. After the five of us had been searching for larval spinnings by eye for one hour, we found one. It was occupied by a White-spotted Pinion larva 2.5 cm in length, in its black-headed penultimate instar. This appears to be the first ever found in Essex (Joe Firmin, pers. comm.). Our observations are given below in some detail, partly because relatively few spinnings have been found in recent years or

described in print (see also *Ent. Rec.* **113**: 135-138 & **114**: 115-117) and because the discovery demonstrates for the first time that larvae can occur on small and rather immature elms in the absence of any tall elm trees. The accompanying photograph (Plate E), shows the exact breeding location. Hugh Owen's right hand shows the position in which the larva was found. Hugh is actually holding his hat under the larval spinning in case the larva should fall. The spinning was on a spray of foliage about 1.5 m above ground, near the edge of a copse, but not on the outer-most leaves at the drip-line. The occupied foliage was quite dense and semi-shaded. The foliage was on a lower side branch and not on epicormic growth from the trunk. The elm tree was no more than 5m tall and its trunk was no more than 25 cm in diameter at shoulder-height. Because of its immature growth form, it is difficult to be certain to which species of elm it belongs. The host tree was standing by a slightly taller Field Maple *Acer campestre*. None of the trees in this overgrown hedgerow and copse could be described as full height or mature. The tallest was less than 10m. All the elms are re-growth from older stumps of trees which have been felled. None have appreciable epicormic growth. The spinning looked very much like that shown in the Waring *et al.* (2003. *op. cit.*), except the upper-most leaf bore three large holes and not many small ones as in the illustration. The spinning consisted of three leaves. The smallest, attached to the uppermost and forming the floor of the "tent", was perforated by many holes and was instantly recognisable as marked by the work of this species. All three leaves were still fresh and green. This was the only White-spotted Pinion larva we found during our hour-long search, which had also produced a fully-grown larva of the Lunar-spotted Pinion *Cosmia pyralina* (D. & S.) and many spinnings of micro-moths. We had used a cherry-picker and a step-ladder to reach spinnings up to about 5 m from the ground. The result indicates that the spinnings of the White-spotted Pinion must be at low density. The larva produced no parasitoids and was successfully reared to adult. Joe Firmin reported the discovery in his wildlife column in the Essex County Standard newspaper of 18 June 2004. Hugh Owen recorded more adults at this site in August 2004 - singletons at light on 7 & 17 August.

During 2003 two adults of the White-spotted Pinion were also light-trapped by David Scott at Ford Farm, Brightlingsea, Essex, both on 6 August. This is the first time the species has ever been recorded on the farm, where David has operated a Robinson light-trap since 1998. However, the species could have remained undetected on the farm prior to 2003 for several reasons. Before National Moth Night on 11 August 2001, when the White-spotted Pinion was the target species, the trap was operated in a site about 100 m from elms. To search for the species on National Moth Night 2001, and subsequently, the trap has been brought to within 30 m of the elms and it captured both of the moths in 2003 in this position. However, the trap is usually only operated every three weeks or so, and could easily have missed the species until 2003. There is also a previous record of the moth from Brightlingsea: Reg Fry recorded a single adult to a light-trap operated by a small wood adjacent to the sand-pit near Moverons (TM 071188) on 1 August 1983, still has the specimen, but in 2002 reported that many of the elms at the site had been felled and the pit fenced off (*Ent. Rec.* **115**: 213-219).

Plate E. Breeding site for *Cosmia diffinis* at Langenhoe, Essex, 25 May 2004. L-R: Ian Rose, Hugh Owen, Phil Smith and Joe Firmin. Hugh Owen's right hand marks position of occupied larval spinning, the first found in Essex.

On 25 May 2004, I visited David Scott's site for the first time, accompanied by Joe Firmin and Ian Rose. We found a hedgerow containing massive elms near the trap-site. The trunk of biggest elm tree was over 1m in diameter at shoulder height and was estimated at over 20m tall. Just across the road is a block of woodland known as Gravesend Wood which contains much elm both as mature trees with epicormic growth and as undergrowth. Elm identification can be notoriously difficult. The bulk of the elm seen here appears to be English Elm, but some of the hedgerow trees have large, smooth, shiny leaves. The structure and composition of the woodland looks just like one of the Huntingdonshire sites where I have found larvae of the White-spotted Pinion in previous years, but despite searching for one hour we failed to find any on this occasion. A ladder was used to reach up to inspect foliage up to about 4m above ground. Several larvae of the Lesser-spotted Pinion *Cosmia affinis* (L.) and one or two of the Lunar-spotted Pinion were found.

David Scott operated his mains light trap on several nights on the farm from late July to mid-August in 2004. Initially he caught only numbers of Lesser-spotted Pinion and Lunar-spotted Pinion, but on 14 August he operated an actinic trap at the

edge of Gravesend Wood and captured a single White-spotted Pinion. Hopefully larvae will be searched for and found in this area and at Chalkney Wood in 2005. Other Essex sites with elms will also be investigated.

The above indicates that the White-spotted Pinion appears to have maintained a foothold in Essex to date, despite the ravages of Dutch elm disease. The confirmed breeding on elm re-growth at Langenhoe, in the absence of mature trees, offers encouragement that it may survive in other areas where mature elms have been lost.

I would like to thank all the above-named for light-trapping and for helping with the larval work. The larval fieldwork and preparation of this report was undertaken with financial support from Butterfly Conservation, English Nature and Writtle College, Essex, as part of the Action for Threatened Moths Project to advance the National Biodiversity Action Plan.— PAUL WARING, Reader, Centre for Environment & Rural Affairs, Writtle College, Essex. Contact address: Windmill View, 1366 Lincoln Road, Werrington, Peterborough PE4 6 LS (E-mail: paul_waring @btinternet.com).

Anachronistic appearance of two geometrids (Lepidoptera)

Whilst trapping in Wormley Wood, Hertfordshire (part of the Broxbourne Woods complex) on the afternoon of 11 December 2004, amongst the thousands of *Erannis defoliaria* (Cl.) (Mottled Umber), *Operophtera brumata* (L.) (Winter Moth) and *O. fagata* (Scharf.) (Northern Winter Moth) caught were five *Phigalia pilosaria* (D.& S.) (Pale Brindled Beauty), and three *Agriopis leucophaearia* (D.& S.) (Spring Usher). I also recorded *A. pilosaria* at nearby Cheshunt, in the Lea Valley which separates Hertfordshire from Essex, on 18 December 2004. The generally accepted flight periods of these moths is, in most British textbooks, January/February for *A. pilosaria* and February/March for *A. leucophaearia.*

Colin Plant informs me that of the 116 records of *pilosaria* in the Hertfordshire Moth Database, the vast bulk of those that include specific dates, and which were recorded in the years up to and including 2002, fall between the first week of February and mid March, with occasional examples at the end of March. However, in 2003 and 2004 there was a smattering of January reports as follows:

15.1.03 – Codicote (R. Cheeseman); 18.1.03 – Thunderfield Grove (M. Cooper); 27.1.03 – Astonbury Wood (C. W. Plant); 27.1.03 – Royston (J. Chainey); 17.1.04 – Wormley (M. Cooper); "January 2004" – Ware (Liz Goodyear).

Hertfordshire records of *A. leucophaearia* in the same database number 68 – all of which fall after the start of February apart from the following:

21.1.98 – Elstree (P. Alston); 17.1.04 – Wormley Wood (M. Cooper); 26.1.03 – Bricketwood Common (C. M. Everett) and 27.1.03 – Astonbury Wood (C. W. Plant).